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express purpose of dissecting, otherwise the odour of the rum will bring the excisemen upon us.

Please present my best regards to Mr. Victor, and be assured that, negligent as I am as to writing, I ever cherish a lively remembrance of you all, being perfectly assured that with him after whom my dearest William Craigie was named, you are my best friends. Pray God to keep you all and send us a happy meeting first in Edinburgh and finally in Heaven.

I have the honor to be, dear Madam
Your most obedient servant

W. MacGillivray.

THE RESIDENT LAND BIRDS OF BERMUDA.

BY OUTRAM BANGS AND THOMAS S. BRADLEE.

APART from a few sea birds that breed in Bermuda, there are but some ten species of birds¹ that are resident in the islands. Three of these — the House Sparrow, the European Goldfinch, and the Bob-white — have been introduced by man. Thus the indigenous ornis of Bermuda includes but seven species of Land Birds — the Ground Dove, the Florida Gallinule, the Crow, the White-eyed Vireo, the Bluebird, the Catbird, and the Cardinal.

Many species of North American birds visit Bermuda, more or less regularly, on migration, and a few unexpected stragglers, such as the Corn Crake, the English Snipe, the Sky Lark, and the Wheatear have been taken there, but except in the cases of a few species, Bermuda does not lie in the regular line of migration and the coming and going of North American migrants are matters of much uncertainty.

In the various lists of the birds of Bermuda that have been pub-

¹ The Great Blue Heron and the Red-tailed Hawk are said to each have bred once in Bermuda. See Capt. Savile G. Reid's 'List of the Birds of Bermuda,' Bull. U. S. Nat. Mus., No. 25, 1884, pp. 220-221 and p. 242.

lished, the indigenous species have always been regarded as identical with continental birds. We have not had an opportunity of comparing specimens of the Bermuda Crow or the Gallinule, but of the other five resident birds all except the Bluebird are well marked, easily recognized island species peculiar to Bermuda.

The present joint article is the result of work done in the field by Bradlee, who spent the entire season just past from November till April at Hamilton, and had there excellent opportunities of studying the birds in life. The specimens he took were sent to Boston, most of them in the meat, and were critically compared by Bangs, with their continental relatives. The work of both is combined in the following short accounts of the different Bermuda Land Birds.¹

Colinus virginianus (Linn.).

QUAIL; BOB-WHITE.

Capt. Savile G. Reid, in his list of the Birds of Bermuda,² says the Quail was common prior to 1840, but became extinct in Bermuda about that time. It was reintroduced in 1858 or 1859.

The Quail is not abundant in Bermuda; two coveys were seen during the season just past, and others were heard of. The birds were very tame, and allowed themselves to be approached to within a few yards without taking alarm.

Columbigallina bermudiana Bangs & Bradlee, sp. nov.

BERMUDA GROUND DOVE.

Type, from Hamilton, Bermuda, ♂ adult, No. 39134 Coll. Museum of Comparative Zoölogy, Cambridge, Mass. Collected Jan. 30, 1901, by T. S. Bradlee.

Characters.—Size very small, smaller than *C. bahamensis* Maynard; bill *wholly black*, exceedingly small and slender (more so than in any other form of the *C. passerina* series); colors pale and ashy as in *C.*

¹ Measurements are in millimeters. Names of colors are those of Ridgway's 'Nomenclature of Colors.'

² Bull. U. S. Nat. Mus., No. 25, Contributions to the Natural History of the Bermudas, 1884, p. 226, 227.

bahamensis and *C. passerina pallescens* (Baird), but even paler and grayer throughout than in either; back of ♂ smoke gray, of ♀ between smoke gray and broccoli brown; forehead and ground color of breast, in ♂, vinaceous pink.

Measurements.

No.	Sex.	Wing.	Tail.	Tarsus.	Exposed culmen.	
39134 (Type)	Mus. Comp. Zoöl.	♂	83	56	14.8	10.6
1	Bradlee Coll.	♂	78	55	14.2	9.8
4164	Bangs Coll.	♂	81	57	14.8	10.6
39135	Mus. Comp. Zoöl.	♀	81	56	15	10.8
2	Bradlee Coll.	♀	80	56	15	11.4
3	Bradlee Coll.	♀	78.5	56	15	11.2
4	Bradlee Coll.	♀	80	54.5	14.4	10.2
4165	Bangs Coll.	♀	80	55.5	15	10.8

The eight specimens upon which we base the Bermuda Ground Dove were taken at Hamilton in March and February; they have been very carefully compared with large series of the other races of *C. passerina*. The small size, very slender, short, wholly black bill, and the pale, gray coloring of the Bermuda bird are very distinctive characters, and it is perhaps one of the most easily recognized forms of the whole *C. passerina* series. In the freshly killed specimens the bill is wholly brownish black, without a trace of yellowish or orange; the foot and tarsus are flesh color.

The bird is abundant; throughout the autumn and early winter it is found in small flocks of from six to twelve individuals, but in the first part of January it begins to pair, and from then on is not so often seen.

Gallinula galeata (Licht.).

FLORIDA GALLINULE.

The Gallinule is resident in Bermuda and is also said to occur on migration. Although it may be commoner in the large marshes, it was seen only on one or two occasions during the season of 1900-1901.

Vireo bermudianus Bangs & Bradlee, sp. nov.

**BERMUDA WHITE-EYED VIREO ; "CHICK-OF-THE-VILLAGE" ;
"CHICK-CHOO-WILLIO."**

Type, from Hamilton, Bermuda, ♀ adult, No. 39131, Museum of Comparative Zoölogy. Collected Jan. 30, 1901, by T. S. Bradlee.

Characters. — In general similar to *V. noveboracensis* (Gmel.). Wing much shorter (the wing of *V. noveboracensis* often reaching 65 mm. in length); tarsus longer; general coloration much grayer, less yellow and olivaceous. The color varies much individually; in extreme examples the whole upper parts are olive gray, only slightly shaded with olive green on rump and sides of interscapulum; the supra-loral region pale grayish yellow; wings and tail edged with olive gray; lower surface dull grayish white, sides and flanks olive gray faintly tinged with dull olive green; wing-bands pure white. The other extreme approaches more nearly to *V. noveboracensis* except that the back and head are always much more suffused with olive gray, and the sides and flanks always dull olive green, not sulphur-yellow. The usual style of coloration is about halfway between these extreme examples.

Measurements.

No.	Sex.	Wing.	Tail.	Tarsus.	Exposed Culmen.
39131 Mus. Comp. Zoöl. <i>Type</i> . I Bradlee Coll.	♀	58	46	20.4	10.6
2 "	♀	59	46.5	20.4	11
3 "	—	58	45	20.6	10.4
4 "	—	59	46.5	20.2	10.4
8 "	—	59.5	47	20.2	10.4
10 "	♂	58	45	21	10.6
11 "	♀	59.5	47	20.4	10.8
4162 Bangs Coll.	♂	59.5	47	21	11
4161 "	♂	59	48	21	10.6

The ten specimens were all taken at Hamilton, in November, December, January, February and March. Though it varies much in color, the Bermuda Vireo can always be told from *V. noveboracensis* by its shorter wing and longer tarsus. The colors also, though they sometimes approach those of *noveboracensis*, are never the same, the Bermuda bird always having more gray in the back

and never any trace of sulphur-yellow on sides and flanks. So far as we know the peculiarities of the Bermuda Vireo have never even been alluded to in any of the various lists of the birds of these islands, though Mr. Wm. Brewster in describing *Vireo noveboracensis maynardi* from Key West, Florida,¹ said "two Bermuda specimens show only slight, and perhaps accidental, peculiarities" from *V. noveboracensis*.

The notes and song of *V. bermudianus* are not at all the same as those of *V. noveboracensis*. The usual note is a harsh scolding or querulous mew, often varied by a clear warble — *chic-hà-chic-a-choo-choo-weeo*; *chic-choo-choo-weeo-weet*, its song being surprisingly varied. It is one of the familiar birds of the islands, very tame and found everywhere, and very different in all its ways from its shy, retiring continental relative, *V. noveboracensis*.

The iris in *V. bermudianus* is white as in *V. noveboracensis* and not, "brownish, brownish gray, or gray" as stated by Capt. Reid.

Corvus (americanus Aud.?).

CROW.

Capt. Reid in his list of Birds of Bermuda gives a good account of the habits, etc., of the Crow in Bermuda (pp. 204, 205). It is, however, doubtful if the Bermuda crow is *Corvus americanus*. Its notes are said to be different, more like those of the European Carrion Crow (*Corvus corone* Linn.) — a hoarse, raven-like croak.

During the season of 1900-1901, crows were seen but seldom and never more than three together at any one time. They were shy and their notes were not heard distinctly.

Galeoscoptes bermudianus Bangs & Bradlee, sp. nov.

BERMUDA CATBIRD; "BLACKBIRD."

Type, from Hamilton, Bermuda, ♀ adult, No. 39130 Museum of Comparative Zoölogy. Collected Mar. 1, 1901, by T. S. Bradlee.

¹ Auk, IV, April, 1887, pp. 148, 149.

Characters.—Much smaller throughout than *G. carolinensis*. Wing and tail shorter. Primaries much shortened, in the closed wing extending only about 15 mm. beyond secondaries. All the wing feathers, primaries, secondaries and tertials much narrower than in *G. carolinensis*. Rectrices also narrower. Bill shorter and more slender, culmen slightly less decurved. Colors about the same, perhaps averaging slightly darker gray below.

Measurements.

No.	Sex.	Wing.	Tail.	Tarsus.	Exposed Culmen.
39130 Mus. Comp. Zoöl. <i>Type.</i>	♀	88	89	27.4	15.4
1 Bradlee Coll.	♂	88	90	27	15.4
2 "	—	90	95	27.2	15.4
3 "	♀	88	87	27	15.8
4163 Bangs Coll.	♂	85	88	26.8	15.8

Five specimens were taken at Hamilton in November, December, January and March. In general appearance the Bermuda Catbird much resembles true *G. carolinensis*, but on closer examination one is at once struck by the peculiar wing, with its short primaries and narrow feathers. The tail is also much shorter and composed of much narrower feathers. The shortening of the wing is a common character in island birds of feeble flight, that are no longer called upon to perform long migrations. In the Catbird of Bermuda it is carried to a great extent, and the wing has a very feeble look.

The Bermuda Catbird has habits and notes very similar to those of the Catbird of the continent. It is very common about the houses and gardens.

Sialia sialis (Linn.).

BLUEBIRD.

The resident Bluebird of Bermuda does not differ to any appreciable extent, from that of the continent of North America generally. Perhaps it averages rather brighter, clearer blue, less purplish above, and the blue seems to be slightly more extended

onto the malar region. But in both these characters it is equalled by occasional specimens from the United States. The color of the back of the male is more like that of the resident bird of south Florida, *Sialia sialis grata* Bangs, but this well marked form has, besides, a very much larger bill and heavier foot and tarsus.

Measurements.

No.	Sex.	Wing.	Tail.	Tarsus.	Exposed Culmen.
39128 Mus. Comp. Zoöl.	♂	98	63	20	11
39129 "	♀	95.5	62	19.8	10.8
1 Bradlee Coll.	♂	100	67.5	19.2	10.2
2 "	♂	101	67	19.4	11
3 "	♂	99.5	65	19.6	10.8
4166 Bangs Coll.	♂	103	65	19.2	11.2

The above measurements, taken from six specimens collected at Hamilton in November, January, February and March, show the proportions to be just as in true *S. sialis*.

Besides being resident in Bermuda, the Bluebird is said to often appear in numbers on migration; possibly some of these remain and breed and thus counteract any tendency to vary that the island birds might develop if wholly cut off from the main body of the species.

The Bluebird is very abundant in Bermuda, and in autumn and winter is gregarious, being seen in flocks of ten or a dozen.

After the hurricane of 1899 there was a noticeable decrease in the number of Bluebirds, but they have now regained their former numbers.

Carduelis carduelis (Linn.).

GOLDFINCH.

Introduced, but just when seems to be uncertain, Capt. Reid mentions seeing one on April 5, 1875, that was very wild and that he supposed was an escaped cage bird.

The Goldfinch is now a common bird in Bermuda, but is exceedingly shy and wary.

Two specimens were secured during the season just past.

Passer domesticus (Linn.).

HOUSE SPARROW.

Introduced in 1874 (a few some time before that date), it is now exceedingly abundant throughout the islands.

Cardinalis bermudianus Bangs & Bradlee, sp. nov.

BERMUDA CARDINAL; "RED BIRD."

Type, from Hamilton, Bermuda, ♂ adult, No. 39132, Museum of Comparative Zoölogy. Collected Mar. 2, 1901, by T. S. Bradlee.

Characters.—Wing short, shorter even than in *C. cardinalis floridanus* Ridgw; proportions otherwise (except those of bill) about as in *C. cardinalis cardinalis*. Bill peculiar; bright vermilion in color; short, stout and abruptly pointed; culmen much curved; upper mandible grooved, angle very abrupt, and edge *very much lobed*; lower mandible equal in depth to upper. Colors of ♂ very bright, lower parts orange-vermilion (vermilion in *C. cardinalis cardinalis*) top of head and crest also orange-vermilion. Colors of ♀ much as in *C. cardinalis floridanus*, — much intermixed with red on breast and cheeks,—red of crest paler, more of an orange red.

Measurements.

No.	Sex.	Wing.	Tail.	Tarsus.	Exposed Culmen.
39132 Mus. Comp. Zoöl. 1 Bradlee Coll.	♂	92	99	24.2	17.4
2 "	♂	93	100	25	17
4159 Bangs Coll.	♂	92	98	25	17
4158 "	♂	90.5	95	25	17
39133 Mus. Comp. Zoöl. 3 Bradlee Coll.	♂	92.5	94.5	24	17
4 "	♂	90	94	25	17
5 "	♂	89	91	24.4	16.6
6 "	♂	89.5	92	23.8	16.6
4160 Bangs Coll.	♀	91	95	23.8	17
	♀	90	95	24	16.6
	♀	89.5	91	23.2	16.6

This fine series of eleven specimens was taken at Hamilton in November, December, January, February and March. There is little individual variation in important characters, some males, as usual in any series of Cardinals, are much brighter than others, but all are orange-vermilion in color. The curious bill of the Bermuda Cardinal is very characteristic, at once separating it from any of the other forms. The grooving of the upper mandible is more pronounced in some specimens than in others, but all show it to some extent. It is rather a singular fact that none of the other red-billed Cardinals have grooved upper mandibles, while the Venezuelan Cardinal (*C. phoeniceus* Gould) that has a whitish brown bill has a grooved mandible.

The Bermuda Cardinal is abundant everywhere in the islands. On January 6, 1901, it was heard singing its "spring song" for the first time — *woo-oo-it*; *woo-oo-it*; *woo-oo-it*.

A NEW GROUND DOVE FROM WESTERN MEXICO.

BY OUTRAM BANGS.

A SHORT time ago my brother and I came into possession of two skins of a Ground Dove, that were collected by P. O. Simons, in the summer of 1897, in Sinaloa, Mexico — one at Los Rables, the other at Escuinapa. In size and proportions these two specimens agree with true *Columbigallina rufipennis* (Bp.), but differ much from that bird in the general pallor of their coloration; the underparts are much paler vinaceous, and the rich vinaceous chestnut of back and wings of *C. rufipennis* is replaced in the Sinaloa form by pinkish vinaceous.

The type locality of *Talpacotia rufipennis* Bp.¹ is Carthagena, and the range of the species is usually given as from Guiana, Venezuela, and Colombia north to Orizaba and Colima, Mexico. Thus Sinaloa is beyond (northwest of) the known geographic

¹ Bonaparte, Conspl. Av., II, p. 79.